$\Psi(\frac{|e_n|}{s})$ sign $\{e_n\}s_n$, wherein Ψ is a hard limiter; and $(\frac{|e_n|}{s})$ is the mean error divided by a scale factor; and $\{e_n\}$ is a sample of echo signal; and s_n is a scale factor.

9. (Amended) The filter of claim 5, wherein the adaptive scaled non-linearity is given by the formula:

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$\Psi(\frac{|e_n|}{s})$ sign $\{e_n\}s_n$, wherein Ψ is a hard limiter; and $(\frac{|e_n|}{s})$ is the mean error divided by a scale factor; and $\{e_n\}$ is a sample of echo signal; and s_n is a scale factor.

10. (Amended) The filter of claim 6, wherein the adaptive scaled non-linearity is given by the formula:

$\Psi(\frac{|e_n|}{s})$ sign $\{e_n\}s_n$, wherein Ψ is a hard limiter; and $(\frac{|e_n|}{s})$ is the mean error divided by a scale factor; and $\{e_n\}$ is a sample of echo signal; and s_n is a scale factor.

13. (Amended) A robust echo canceller comprising:

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an adaptive filter for outputting an error signal in response to a detected echo signal; and

means for supplying adaptive filter coefficients to said filter, wherein said filter coefficients are given by the formula: $h_{n+1} = h_n + \frac{\mu}{x_n^T G_n x_n + \delta} G_n x_n \varphi(|e_n| sign\{e_n\}$, wherein h_n is the estimated echo path; μ is the overall step size parameter; G_n is the excitation matrix; x_n is